

ABSTRACT OF THE DISCLOSURE

A method for processing a substrate comprising depositing a dielectric layer comprising silicon, oxygen, and carbon on the substrate by chemical vapor deposition, wherein the dielectric layer has a carbon content of at least 1% by atomic weight and a dielectric constant of less than about 3, and depositing a silicon and carbon containing layer on the dielectric layer. The dielectric constant of a dielectric layer deposited by reaction of an organosilicon compound having three or more methyl groups is significantly reduced by further depositing an amorphous hydrogenated silicon carbide layer by reaction of an alkylsilane in a plasma of a relatively inert gas.